

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-009243**Date Inspected:** 26-Sep-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Li Zhi Jiang, Mr. Zhu Tian Shu, Mr. Guo Yanfei

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG BAY 2

This QA Inspector observed ZPMC welder Mr. Rao Wei, stencil 049972 is using shielded metal arc process WPS-B-T-2112 to complete OBG floor beam fillet tack weld FB3055-001-015. This QA Inspector observed a welding current of approximately 160 amps, the base material is clean where the tack welds were being made, and Mr. Rao Wei is certified to make this weld. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container which is warm to the touch and it appears to be connected to the welding power supply cable. This QA inspector observed ZPMC workers used a torch to preheat the base material prior to commencement of the tack welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Wang Chaili stencil 045203 is using flux cored welding procedure WPS-B-T-2231-B-U2-T-1 to make OBG floor beam weld FB3078-001-046. This QA Inspector observed that earlier in the shift QC Inspector Mr. Yang Qing Feng recorded that Ms. Wang Chaili had a welding current of 280

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amps and 28 volts. This QA Inspector measured a welding current of 260 amps and 27.7 volts. This QA Inspector observed that Ms. Wang Chaili is certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Zou Dianqin, stencil 250050 is preparing to use welding procedure specification WPS-B-T-2211-B-L2C-S-2 to make submerged arc groove weld SEG061*-008 between deck panel DP236-001 and DP128-001. This QA Inspector performed random visual inspections of the weld groove which had been backgouged and ground. This QA Inspector observed the weld groove has localized dished areas where the air arc oxide surfaces have not been ground to a bright metal condition. ZPMC QC Inspector Mr. Xiang Feng Teng observed this QA Inspector using a piece of soapstone to mark some of the areas of the weld groove that had not been ground to a bright metal condition and Mr. Xiang Feng Teng also marked several other areas that had not been completely ground to a bright metal condition. Mr. Xiang Feng Teng informed this QA Inspector that Ms. Zou Dianqin is not going to perform any submerged arc welding this shift and that prior to welding ZPMC personnel will grind the areas of the weld groove that have air carbon arc oxide surfaces. This QA Inspector confirmed that Ms. Zou Dianqin is certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Zu Zichuan stencil 205098, is using welding procedure WPS-B-P-2112B-U2 to make OBG shielded metal arc tack weld SEG6061*-009 between deck plate DP290-001 and deck plate DP128-001. This QA Inspector observed a welding current of approximately 150 amps and Mr. Zu Zichuan is certified to make this weld. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container which is warm to the touch, but this oven was not connected to an electrical power source. Mr. Zu Zichuan observed this QA Inspector monitoring the temperature of the electrode storage container and he proceeded to connect the electrode storage container to a power source. Items observed on this date appeared to generally comply with applicable contract documents.

OBG BAY 3

This QA Inspector observed ZPMC welder Mr. Liu Ming, stencil 044790 is using flux cored welding process WPS-B-T-2233-TC-U4b-F to make OBG Corner Assembly weld CA088-033. This QA Inspector measured a welding current of approximately 225 amps and 27.2 volts. This welding is being monitored by ZPMC QC Inspector Mr. Guo Yuan Ting who previously recorded a welding current of 207 amps and 24.8 volts. This QA Inspector confirmed that Mr. Liu Ming is certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

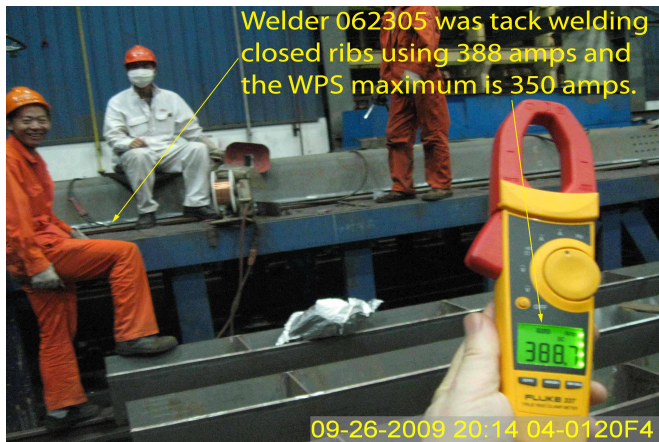
OBG BAY 9

This QA Inspector observed ZPMC welder Mr. Tang Ke, stencil 062305 is using flux cored welding procedure WPS-B-T-2342-U5(U-rib) to tack closed ribs to deck plate DP3064-001. This QA Inspector measured a welding current of approximately 385 amps and 24.4 volts. This welding procedure lists the acceptable welding current range is 330 to 350 amps and 25 to 28 volts. The welding current and voltage that were observed by this QA Inspector both appear to be slightly outside the acceptable limits as listed in the welding procedure specification. ZPMC CWI Mr. Guo Yanfei arrived at the location of the welding and this QA Inspector showed Mr. Mr. Guo Yanfei a photograph showing the high welding current that had been measured by this QA Inspector a few minutes

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earlier. Mr. Guo Yanfei informed this QA Inspector that ZPMC QC personnel had recently verified the welding current and voltage were within acceptable limits. Mr. Guo Yanfei then proceeded to adjust the welding machine to approximately 340 amps and 25.6 volts. This QA Inspector asked ZPMC welder Mr. Tang Ke to show his ZPMC issued welder identification card which identifies which welding processes and positions he is certified to utilize for welding of Caltrans bridge components. Mr. Tang Ke was not able to produce a welder identification card. This QA Inspector informed ZPMC CWI Mr. Guo Yanfei that Mr. Tang Ke does not appear to have a welder identification card. Mr. Guo Yanfei called an English speaking interpreter who informed this QA Inspector that Mr. Tang Ke has misplaced his certification card and he is in the process of obtaining a new welder identification card. See the photograph below that shows the high welding current that was measured by this QA Inspector. Items observed on this date do not appear to fully comply with applicable contract documents.



Summary of Conversations:

See above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
